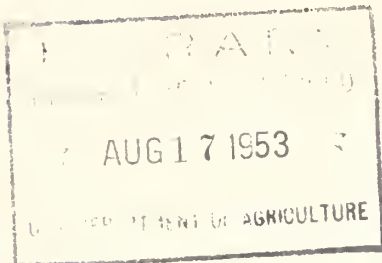


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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Washington 25, D. C.



FIELD MEMORANDUM SCS-#1159

Re: Current Soil Survey
Technical Guide

June 23, 1953

TO ALL RANKING FIELD OFFICERS:

(For distribution as well to all soil scientists)

This memorandum supplements the memorandum of June 10 to Regional Directors on the Soil Survey (copy attached) and carries forward technical plans for further progress toward the goals outlined in the "Suggested Program for a National Cooperative Soil Survey", issued November 28, 1952. It should be emphasized that these goals include a first responsibility to develop adequate soil maps needed in our going technical assistance program on farms and ranches in soil conservation districts. This means that continuing attention must be given to efficient mapping procedures that will result in the maximum number of acres being covered consistent with securing adequate soils information for the farm and ranch planners and other users.

Substantial progress is being made in developing with the States memoranda of understanding basic to our cooperative soil survey program and in developing operational procedures under the memoranda.

Emphasis needs to be given during the next few months to (1) the preparation of soil survey work plans, (2) the development of a uniform approach in soil classification and correlation, and (3) the improvement of interpretation of the soil survey. Effective progress along each of these lines is essential to the development of one unified cooperative program.

1. The attached memorandum to Regional Directors makes clear that all funds for soil surveys are being allocated to the Regional offices. Thus, after July 1, soil scientists who were transferred from BFI&E to SCS last November will look to the regional offices for all fiscal, personnel, and administrative services, including payrolling, preparation of travel authorizations, handling of expense vouchers, preparation of personnel actions, procurement, and other facilitating services in the same manner as other SCS personnel. Detailed instructions covering procedures affected by this change will be transmitted to the field staff by the respective regional offices.
2. In order to meet the increased responsibilities which follow from the consolidation of soil survey activities, certain changes are being made in the organizational structure of the Soil Conservation

Service. We shall have one soil survey organization to handle functions in both operations and research. The Chief of the Soil Survey will report on appropriate functions to the Assistant Chief for Operations, SCS and to the Assistant Chief for Research, SCS. He will have a staff of soil scientists dealing functionally with survey operations, classification and correlation, soil survey interpretation and reports, and soil survey research, including laboratories. At the regional office, the revised structure will provide for an Assistant Regional Director for Soil Survey who, with his staff, will be responsible in the region for the same functions as the soil survey staff at Washington. It is expected, however, that more than one function may be handled by individual staff members at the regional office.

3. Preparation of survey work plans and amendments.

With the re-alignment of soil survey activities, some changes in earlier procedures for the execution of work plans and amendments are necessary. Although we look forward to complete work plans for all surveys, in order to schedule only the most pressing changes now during this interim period, work plans and amendments can continue to be handled as before except in those cases where publication is contemplated. Thus, changes in procedures for the preparation of work plans and amendments have lowest priority in those areas where individual farms or small groups of farms are covered by soil surveyors as a general practice, where publication of the survey is not contemplated, or where possibilities of publication seem very remote. For all surveys in which progressive mapping is the general practice or where publication is contemplated and seems feasible, however, work plans or amendments to existing work plans should be prepared by the State soil scientist and the appropriate soil correlator using the standard form which has been reproduced in quantity and distributed to regional supply centers. (This standard form is a slight revision of the one illustrated on pp. 43-44 of the Soil Survey Manual.) After a work plan or amendment has been prepared in satisfactory form, it should be signed by the proper authorities, including the State Conservationist, the appropriate administrative officer for the State (usually the Director of the agricultural experiment station), representatives of other cooperating agencies (if any), and the Chief of the Soil Survey. Copies of the work plan or amendment should be made available to all cooperating agencies and to the State, regional, and national offices of the Soil Conservation Service. A copy will also be provided the principal soil correlator responsible for the classification of soils in the State. Approval by the Chief of the Soil Survey of the work plans and amendments involving publication will provide more formal coordination of commitments for publication than was necessary heretofore.

4. Preparation of soil descriptions.

Competently prepared soil descriptions are basic data for the correlation and classification of soils and for interpretations as to their usefulness. Consequently, it is essential that continuing efforts be made to improve the descriptions being prepared by all members of the soil survey staff. Adequate descriptions consist of a full description of the soil profile and of other features of the soil, such as percent and configuration of slope, stoniness, drainage, and evidences of salt accumulation, in standard terminology as given in the Soil Survey Manual, (or as amended by approved supplements to it). Additional technical instructions for describing soils will be provided by appropriate members of the correlation staff wherever those are needed. It is urged, however, that immediate steps be taken to obtain complete, up-to-date descriptions of all soil units listed in mapping legends for all areas as rapidly as possible, consistent with good work. In instances where additional training is required for the preparation of adequate soil descriptions, it should be provided at the earliest possible date.

5. Improvement of mapping legends.

Like the study of the soils themselves and the preparation of adequate descriptions, attention to the improvement of mapping legends must be continuous; but it is especially urgent at the present time. We must take steps to review the existing legends generally and improve them as necessary so that the soil maps and descriptions not only will meet the needs of our own programs but also will fulfill the requirements of other users of soil survey data. Although it is recognized that the total job of review cannot be accomplished in a matter of months, it should be pressed forward as rapidly as is consistent with our present staffing. Not every survey in progress can be readily adapted to meet the requirements of all who might be users of soil survey data, and we may need to recognize that some current work will be useful chiefly for our own immediate purposes. Yet we should hold the number of such soil surveys of limited use to the minimum. Plans should be made for study, as needed, and for the necessary changes in legends to make them meet the requirements outlined in the document, "Suggested Program for a National Cooperative Soil Survey", issued for the guidance of the full staff of the Service on November 28, 1952.

Attention is again called to the need for a uniform approach in the classification of soils in all surveys so that the mapping units delineated on the field sheets can be properly identified in the nation-wide system of soil classification. For most surveys at least, this will require a definition of

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each mapping unit in terms of a soil type, a subdivision of a soil type, or a combination of subdivisions of two or more soil types. The highest usefulness of the mapping requires that legends of detailed surveys consist chiefly of mapping units that are subdivisions of soil types in the nation-wide system of soil classification. In some instances, it may not be practicable to identify and to correlate all mapping units of an area with recognized and defined soil series. Such instances should be kept to a minimum. At the same time, the legends given to farmers should not include new series names without approval of the principal soil correlator. A local descriptive name should be used for a new, unnamed soil series until there has been opportunity for the study of the soil in question and for its identification within the nation-wide system.

In addition to the identification of the mapping units within the nation-wide system, normally in the series and type categories, it will also be necessary to make complete descriptions of the mapping units or to prepare descriptive legends for all surveys in which those are not now available. These are necessary as a record of what has been mapped in each survey, both for maximum usefulness in current interpretations and for possible future publication of the survey data. They are essential to the continuity of good work with changes in mappers, party chiefs, and survey supervisors. These descriptive legends assume very great importance in our present organization because of the need for evaluation of individual surveys looking toward publication and the more widespread use that it implies. Wherever they are needed, technical instructions in the preparation of descriptive legends will be provided by appropriate members of the soil survey staff.

It is the basic responsibility of each individual soil mapper assigned to a soil survey area (county or district) or party chief of a progressive survey to prepare a proper descriptive legend that includes each mapping unit. Although this job requires some time in the beginning, and to keep it current, much time is saved in the end. Copies of such a legend serve as a sort of preliminary soil survey report useful to farm planners and all others concerned with the results of the survey.

It is the responsibility of survey supervisors, State soil scientists, and soil correlators to see to it that mappers and party chiefs with whom they work are adequately trained in the development of descriptive soil legends and that they have currently accurate legends in hand that fulfill the needs for such legends as a record of the work being done, as a description of each unit adequate to other technicians

in the Service and in cooperating agencies, and as a proper basis for soil correlation and the detailed outline of descriptions to be published in soil survey reports. (See Soil Survey Manual, pages 319-20).

6. Selection of areas for immediate correlation.

It is clearly impossible to make the studies necessary for full correlation in all current survey areas in the immediate future, yet the work of correlating soils among areas must proceed. As a means of moving ahead on the job now incumbent on us in the fulfillment of objectives of the National Cooperative Soil Survey, certain areas should be selected for first attention. These can then be studied carefully by members of the correlation staff for the classification of those soils in the nation-wide system of soil classification. Once the soils are correlated in selected areas, these will serve as reference areas or benchmarks from which the classification can be extended to nearby similar landscapes with greater assurance by State soil scientists and soil survey supervisors. At the same time, work in these key areas can be used to provide training in correlation procedures.

Key areas should be selected on the basis of (1) their agricultural importance, (2) as representative samples of large soil association or conservation problem areas, or (3) in areas lacking recent soil classification and correlation. First priority should be given to areas qualifying under a combination of at least two of these factors.

A list of key areas should be prepared in each SCS region in the immediate future. It is suggested that a list be drafted in preliminary form by each State soil scientist for his State, in consultation with appropriate staff members of the Service in the State and of the cooperating State soil survey. The State lists should then be reviewed and consolidated by regional staff members (including soil correlators of the region) into regional lists. These regional lists should be forwarded to the Washington office by August 15 for review and consolidation into a single list for the country. Two classes of areas should be established according to priority of need so that the final list will clearly show those areas most in need of immediate attention.

7. Improvement of interpretations of soil surveys.

A fundamental principle in all work of the Soil Conservation Service is that of fitting together the best combination of practices for the soil and water resources of the individual farm, ranch, or watershed. Continuing effort is required on

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the part of everyone, including the soil survey staff, to improve the basis for achieving the best combinations possible within our knowledge and resources. A special responsibility falls upon members of the soil survey staff, both in finding out what the soils are on individual farms and in contributing to the interpretations necessary in the planning of the farms. Members of the soil survey staff are expected to contribute substantially to the continuing improvement of capability groupings, technical guides, and conservation use and treatment guides.

As rapidly as possible and as time permits, the members of the soil survey staff at State, regional, and Washington offices need to give emphasis to reviews of the principles and criteria followed in grouping soils into capability units. The problem has two closely related aspects: (1) The general principles that need to be followed to achieve desirable uniformity in the level of abstraction or degree of homogeneity of capability units throughout the country; and (2) the specific criteria to be used in making local groupings of kinds of soil that have the degree of homogeneity essential for giving the best technical guidance to soil use and to practices for soil and water conservation and improvement.

Special emphasis is now needed (1) at the State level where full use may be made of the data and judgments of the qualified members of both the staff of the Service and the staff of the State agricultural experiment stations, and (2) for the country as a whole through inter-regional study under the leadership of the Washington staff. The regional soil survey staff should arrange as rapidly as possible for joint technical groups in each State to review the groupings in order that both the Service and the Land Grant Colleges will have a common understanding of the groupings and of the interpretations associated with them. Such common working together on this problem naturally follows the more general technical work shops already held or planned.

Comparisons among regions are necessary in order that we may have a satisfactory working concept of the capability units country-wide and a common basis for the application of technical practices in the soil and water conservation program. Such comparisons and joint studies should be concentrated within soil association areas that are common to two or more regions. Even though the groups may not everywhere be identical, the grouping of soil series into soil families by the soil correlation staff will give very useful guidance to the grouping of kinds of soil into capability groups.

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In addition to the general review of the principles and criteria for grouping soils into capability units, more study is needed in some regions of the forest site evaluations and grazing potentials of capability units, or of special capability groupings for those interpretations. Steps should be taken to initiate these studies. The Washington office staff is available to assist in the planning and conduct of such studies, region by region, and will provide the leadership for national coordination of them.

Ed-41 attached

U. S. Department of Agriculture

Copy

Soil Conservation Service

Washington 25, D. C.
June 10, 1953

To: All Regional Directors

From: Robt. M. Salter, Chief

Subject: Soil Survey

When the Soil Survey was transferred to the Soil Conservation Service in November, 1952, we anticipated an interim transition period before establishing a new organizational framework which would provide a unified soil survey as an integral part of the SCS, meeting the needs of all users of soil survey information. We have been progressing in that direction, and it is now possible to take an additional step to bring the soil survey activities into conformance with our currently approved functional chart.

Effective July 1, all funds for soil surveys will be allocated to the Regional Offices. Principal soil correlators and their correlation staffs will be assigned for administrative servicing to the Regional Office for the region in which they are headquartered. Since all principal correlators have responsibilities in more than one SCS region, it is essential that the interim planning meetings agreed on while the Regional Directors were in Washington be held at the earliest possible date. Agreement should be reached at these meetings on (1) correlation activities during the interim and (2) assignments of other soil scientists transferred from BPISAE to SCS last November. Some of these men also have assignments in two regions. Until the regional interim planning meetings are held and definite assignments agreed on, the soil scientists who were transferred will continue on their present assignments. Technical and scientific leadership and coordination for the entire national program rests, as heretofore, with the Chief of the Service in Washington and his joint staff for operations and research.

Organizational adjustments, which involve the physical transfer of headquarters of personnel, will necessarily take place gradually. To facilitate the transition process in the respective regions, Acting Assistant Regional Directors for Soil Survey have been designated to serve until further notice. These men, with Washington Office assistance, will arrange for the interim planning meetings and will continue to work with the line and staff officers of the region and the field survey personnel to carry out the planned arrangements for integration.



(s) Robt. M Salter